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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/840,141	05/06/2004	Yukio Iizuka	0388-044074	7393

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Russell D. Orkin  
700 Koppers Building, 436 Seventh Avenue  
Pittsburgh, PA 15219-1818

EXAMINER
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BRAHAN, THOMAS J

ART UNIT	PAPER NUMBER
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3654

DATE MAILED: 07/25/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/840,141

Applicant(s)

IIZUKA, YUKIO

Examiner

Thomas J. Brahan

Art Unit

3654

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 19 April 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 14-16 is/are allowed.
- 6) ☒ Claim(s) 1-8, 13, 17-20 and 23 is/are rejected.
- 7) ☒ Claim(s) 9-12 and 22 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

Art Unit: 3654

1. The following is a quotation of the second paragraph of 35 U.S.C. § 112:  
The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which applicant regards as his invention.
2. Claims 3-5, 19 and 20 are rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.
  - a. In claim 3, in line 5 and in line 6, the term "the suspended article" lacks antecedent basis within the claims.
  - b. In claim 4, it is unclear as to how applicant can consider the apparatus as having "the fall prevention member" provided at a front side and at a rear side of the vehicle. How can one "member" be at both the front and the rear?
3. In claim 17, the term "holding mean" should be changed to the term "holding means".
4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. § 102 that form the basis for the rejections under this section made in this Office action:  
A person shall be entitled to a patent unless --  
(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.
5. The following is a quotation of 35 U.S.C. § 103(a) which forms the basis for all obviousness rejections set forth in this Office action:  
(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.
6. Claims 1-4, 7, 17, 18 and 20, as best understood, are rejected under 35 U.S.C. § 102(b) as being anticipated by Hine. Hine shows a transport apparatus having a guide rail (the vertical rails of elevator 14) for transporting an article (wafer 50), comprising:
  - a vehicle (mounting plate 1) that moves along the guide rail (of 14);
  - a holding means (first presenter jaw 5 and its flanged wheels 18) supported on the vehicle (1), for holding the article (50) and moving the article vertically;
  - a wobble prevention means (on second presenter jaw 8) supported on the vehicle, and movable between a support position where it abuts against a side of the article (50) and a release position where abutting against the side of the article is released, for, in the support position, keeping the article from

Art Unit: 3654

wobbling in at least one direction (inherently); and

a roller (one of the flanged wheels 18) provided in the wobble prevention means (on 8) and capable of rotation about a vertical shaft and movable toward and away from the side of the article (50), and urged toward the side of the article (50);

wherein the roller (18) abuts against the article (50) when the wobble prevention means is in the support position.

The roller (18) has a magnetic brake which inhibits rotation, see column 4, lines 2-6, as recited in claims 2 and 7. Hine has a second presenter jaw (8) which has the structure of recited in claim 3 for a fall prevention member which is supported on the vehicle (1), which is capable of moving between a receiving position where at least a part of the wheel is located below a bottom surface portion of the suspended article (50) and can receive the bottom surface portion of the article and a retreated position where it is retreated from below the suspended article, wherein the wobble prevention means (18) is provided in the fall prevention member (8) in such a manner that it is switched to the support position by changing the position of the fall prevention member (8). Portions of the fall prevention member (8), at the lower rails, are at the front and at the back of the vehicle, based on the movement direction of the vehicle, note that figure 7 shows the both X and Y directions of movement for the vehicle (1), as claim 4 is best understood. The holding means (5) holds the entire height of the wafer, including the upper portion, as recited in claim 17, and is not interposed between wobble prevention means (18) and the vehicle (1), as recited in claim 18. The holding means (5) can be moved under the article (50) to a position which does not have the article contacting the fall prevention means (5) with the position considered as a receiving position, as recited in claim 20.

7. Claims 1, 3 and 5, as best understood, are rejected under 35 U.S.C. § 103(a) as being unpatentable over Konig et al in view of Coomer et al. Konig et al shows a transport apparatus having a guide rail (for movement of the table in the x-y directions) for transporting an article (wafer 1), comprising:

a vehicle (table 2) that moves along the guide rail;

a holding means (one of the clamping devices 47) supported on the vehicle (2), for holding the article (1) and moving the article vertically;

a wobble prevention means (another of the clamping devices 47) supported on the vehicle, and movable between a support position where it abuts against a side of the article (1) and a release position where abutting against the side of the article is released, for, in the support position, keeping the article from wobbling in at least one direction.

Konig et al varies from claim 1 by not specifying that the clamping means (47) are rollers. Coomer et al shows a similar apparatus and teaches that its gripper elements can be hooks, rotary latches, pivoting rollers or other types of holding devices, see column 3, lines 27-32. It would have been obvious to one of ordinary skill in the art at the time the invention was made by applicant to modify the

Art Unit: 3654

wafer positioning device of Konig et al by using pivoted rollers as the clamping members, as these are art recognized equivalents with the clamps (47) shown in the drawings, as taught by Coomer et al. Konig et al has a fall prevention member (holder 9) supported on the vehicle, which is capable of moving between a receiving position where at least a part of the member (9) is located below a bottom surface portion of the wafer and can receive the bottom surface portion of the wafer and a retreated position where it is retreated from below the wafer, wherein the wobble prevention means (47) is provided in the fall prevention member (9) in such a manner that it moves to the support position by changing the position of the fall prevention member to the receiving position and is moved to a release position by changing the position of the fall prevention member to the retreated position, as recited in claim 3. Note the wobble prevention means can have a release position defined by unclamping the rollers and moving the holding means away from the wafer. The fall prevention member (8) moves about a horizontal shaft, at axis W, as recited in claim 5.

8. Claims 1 and 6, as best understood, are rejected under 35 U.S.C. § 103(a) as being unpatentable over Cox et al in view of Reimer et al. Cox et al shows the basic claimed apparatus for transporting an article (a wafer 202), comprising a holding means (wafer carrying blade 204) for holding the article (202) and moving the article vertically and a wobble prevention means (clamping mechanism 200) movable between a support position where it abuts against a side of the article (202) and a release position where abutting against the side of the article is released, for, in the support position, keeping the article from wobbling in at least one direction, and a roller (210) provided in the wobble prevention means (200) and capable of rotation about a vertical shaft and movable toward and away from the side of the article (202), and urged toward the side of the article (202) abutting against the article (202). It varies from claim 1 by not having the apparatus mounted on a guide rail. Reimer et al shows a similar apparatus mounted on a guide rail (134). It would have been obvious to one of ordinary skill in the art at the time the invention was made by applicant to modify the wafer transporting apparatus of Cox et al by mounting it on a guide rail, to increase its movement range, as taught by Reimer et al. The wobble prevention member of Cox et al includes a pivoting member (302) and an elastic urging means (308), as recited in claim 6.

9. Claims 1, 3-6, 8, 17, 19-21, and 23, as best understood, are rejected under 35 U.S.C. § 103(a) as being unpatentable over Asada et al in view of Barry. Asada et al discloses a transport apparatus for a crane having a guide rail (the crane gantry), for transporting an article (a container), comprising:

- a vehicle (the crane trolley) that move along the guide rail (the crane gantry);
- a holding unit (the spreader upper main beams 1A) supported by an ascending/descending actuator mechanism of a crane, and capable of moving the article up to a transporting position, and having a plurality of arms (1C and their twist locks) for holding the article;
- a fall prevention member (guides 3 and/or their stoppers 10) supported on the crane and capable

Art Unit: 3654

of moving between a position extending below a bottom of the article (C) and a position retreated from below the bottom of article, when the article is in the transporting position;

Asada et al varies from the claims 1 and 8 by not having retracting rollers on the guides (3). Barry shows a similar guide (74) with a pivoting member (118) pivoting about a first shaft (110) and a roller (110A) rotatable about a second shaft at the free end of the pivoting member. It would have been obvious to one of ordinary skill in the art at the time the invention was made by applicant to modify the material handling guides (3) of Asada et al by providing them with a guide roller which is retractable into the guides via a pivoting arm, for cushioned alignment of the guide with the load, as taught by Barry. If the rollers are extended from the guides (3) as the guides approach the container, the wobble prevention rollers are moved into engagement by the movement of the guides, as recited in claim 3. A roller would be provided at front and back directions of the vehicle at central locations, as claim 4 is best understood. Fall prevention members (3 and/or 10) pivot on horizontal shafts, as recited in claim 5. The roller (110A) is urged towards the container by a member (air cylinder 120) which is considered as elastic, to some degree, as recited in claim 6. The holding unit (the spreader upper main beams 1A) holds the upper portion of the container, as recited in claim 17. When the fall prevention means (3 and/or 10) is raised to its upper position, the holding means is capable of lowering the container to a level substantially below the lowest level of the fall prevention member, as recited in claims 19 and 21. The fall prevention means (3 and/or 10) can be moved under the container to a position which does not have it contacting the container, with the position considered as a receiving position, as recited in claim 20. The stopper (10) of the fall prevention member can extend to a position below the article, as recited in claim 23.

10. Claim 13 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Asada et al in view of Barry, as applied to claim 8, and further in view of Kloos or Noly. Asada et al, as modified, shows the basic claimed transport apparatus, but varies from claim 13 by not having a motor and a vertical shaft for rotating the spreader. Kloos shows a spreader with motor (7) for rotation about a vertical shaft. Noly shows a spreader with a motor (15) for rotating the spreader about a vertical shaft. It would have been obvious to one of ordinary skill in the art at the time the invention was made by applicant to provide the material handling spreader of Asada et with a motor, for load rotation, as taught by Kloos or by Noly.

11. Claims 14-16 are allowable. Claims 9-12 and 22 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.


12. Applicant's remarks in the amendment filed April 19, 2006, have been fully considered, but are deemed moot in view of the above new rejections. The amendment necessitated the new grounds, accordingly, THIS ACTION IS MADE FINAL. See MPEP § 706.07(a). Applicant is reminded of the

Art Unit: 3654

extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

13. An inquiry concerning this communication or earlier communications from the examiner should be directed to Thomas J. Brahan whose telephone number is (571) 272-6921. The examiner's supervisor, Ms. Katherine Matecki, can be reached at (571) 272-6951. The new fax number for all patent applications is (571) 273-8300. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Questions regarding access to the Private PAIR system, should be directed to the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
Thomas J. Brahan  
Primary Examiner  
Art Unit 3654

7/23/06